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27799	7590	01/11/2008	EXAMINER	
COHEN, PONTANI, LIEBERMAN & PAVANE			MCGRAW, TREVOR EDWIN	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/559,207
Filing Date: December 02, 2005
Appellant(s): KOTHEN ET AL.

MAILED
JAN 11 2008
GROUP 3700

Alfred W. Froebich
For Appellant

EXAMINER'S ANSWER

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

This is in response to the appeal brief filed 10/05/2007 appealing from the Office action mailed 03/07/2007.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows:

1. Whether independent claim 6 and dependent claim 9 are patentable under 35 U.S.C. § 103 (a) over DE 27 46 901 (Marsch et al.).

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

DE 27 46 901

Marsch et al.

7-1978

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 9 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Marsch et al (DE 27 46 901).

In regard to claims 6 and 9, Marsch et al. teach a fuel injection nozzle comprising a housing (1) where the housing has a needle bore (2) having a central axis (Figure 1) and a lower portion (Figure 1) with a needle seat (6) where an axial dimension of the lower portion is substantially smaller than the axial length of the bore (Figure 1) where an outside surface (Figure 1) is radially spaced from the center axis.

Marsch et al. also teach a cooling duct (12) being arranged around the lower portion of the bore (2) where the cooling duct is closer to the bore (2) than the outside

surface of the housing (1), where the cooling duct (12) has a cross-sectional area in a plane through the central axis and a cross sectional area having a height in the axial direction and a width transverse to the axis where the width is less than the height and where the cooling duct further extends axially as far as the needle seat (6) [(Figure 1)].

Marsch et al. further teach, an entire height of the cooling duct (12) being arranged at the lower portion of the proximate the needle seat (Figure 1) and a cooling medium inflow line (15) having a first portion extend axially in the housing and a second portion connecting the first portion to the cooling duct (12) [(Figure 1)], where the cross sectional area of the cooling duct (12) is at least approximately twice the cross sectional area of the cooling medium inflow line (15).

Marsch et al. disclose and substantially teach the claimed invention except for the width of the cooling duct (12) being 0.25 times the height. It would have been an obvious matter of engineering design choice to provide for the width of the cooling duct (12) to be 0.25 times the height of the cooling duct (12), since applicant has not disclosed how making the cooling duct (12) width 0.25 times the height solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the width and height being the same ratio in regard to width and height.

(10) Response to Argument

- a. In response to Appellant's argument that Appellant provides a purpose for the particular width to height ratio of the cooling duct as claimed is unfounded. Appellant points to paragraph 10 of the disclosure that states the following:

"A cooling duct 6 is arranged in the housing. The width of this cooling duct here is approximately 0.25 times the height extending in the direction of the axis A-A.... A cooling duct which is formed in this way may be made to extend...close to the combustion chamber, thus extending into the end region of the nozzle which is subjected to the highest thermal stress. Furthermore, a large wall surface 8 of the cooling duct 6 which faces the internal region of the nozzle is made available for the transfer of heat to the cooling water."

The Examiner respectfully traverses the argument, and brings to Appellant's attention that paragraph 10 of the disclosure merely states that the cooling duct width "is approximately 0.25 times the height and extends in the direction of the axis A-A" and does not specifically state what purpose the approximate dimensions of the cooling duct provide. Appellant is mistaken in asserting that a purpose for the cooling duct dimension ratio is referenced in paragraph 10. The purpose of the wall surface of the cooling duct is mentioned (see line 10-12) not why the width and height ratio of the cooling duct are a criticality for solving a stated problem. Arranging a heat transfer medium close to an area of high thermal-resistance is an established principle of heat transfer which is recognizable to those with ordinary skill in the art. Increasing the surface area for a cooling medium to provide a heat transfer medium is also old and well known within the art.

As a result, changing the size or area of the cooling duct is obvious to one having ordinary skill in the art and does not distinguish the current invention over the prior art structurally. Finding the optimum sizing arrangement of a feature, whether larger or smaller in cross-sectional area does not constitute patentability and renders such a

change as an obvious matter of engineering design choice. Marsch et al substantially teach the present invention as claimed structurally. Furthermore, Appellant never states within disclosure that using such an arrangement provides a benefit of increasing heat transfer flow.

For the aforementioned reasons, Examiner maintains that the cooling duct arrangement of Marsch et al performs equally well as Appellant's cooling duct dimensional arrangement. The specific dimensional arrangement as recited by Appellant is merely a design choice that is obvious to one having ordinary skill in the art.

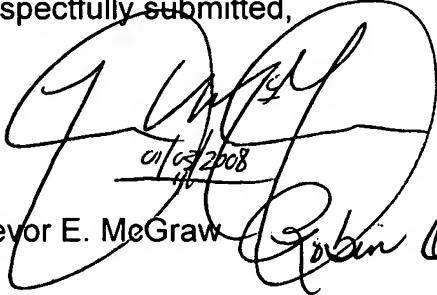
(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

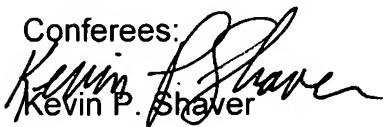
For the above reasons, it is believed that the rejection(s) should be sustained.

Respectfully submitted,

Trevor E. McGraw


01/03/2008

Conferees:


Kevin P. Shaver

Robin O. Evans